

January 13, 1956

Dr. Joan Taylor
Salmonella Reference Laboratory
Central Public Health Laboratory
Colindale Avenue
London NW 12, England.

Dear Dr. Taylor:

During the last few years, we've run into two occurrences of what appears to be a genetic duplication of a first-phase H antigen. One is Edwards' S. paratyphi B java N25, which turns out to be $H_1^b H_1^{1,2}$ (and thus has a second anomaly, a 1,2 antigen which is homologous with other phase-1(s); the second came up in a transduction experiment of S. typhimurium --x S. abony, and came out b,i:enx. We have gone fairly far towards completing the genetic analysis of these stocks, and it appears that there has been a duplication of the H_1 gene so that two phase-1 determinants can persist in the same cell. Such duplications have been attributed with considerable importance in the genetics and evolution of other organisms, but these are probably the first demonstrations in bacteria.

I wrote about this to Phil Edwards; in replying, he mentioned his own experience with d,eh: forms, and also a culture he had received from you as Col 529-55, 4,12: r,i - l,w. As he mentioned that the latter had not been published, I thought I should consult with you before working on it. We have in mind to try to correlate this isolate as a presumed natural occurrence of a duplication similar to the other two mentioned above. Does this overlap any of your plans, or those of your associates? Phil gave me no other details: if you can tell me anything of the source of this culture, and particularly its serological and variational behavior, it would be very helpful.

Please give our very best regards to Clive Spicer-- would you tell him "Thanks for the Brighton Rock"-- he'll know what I mean.

Yours sincerely,


Joshua Lederberg